

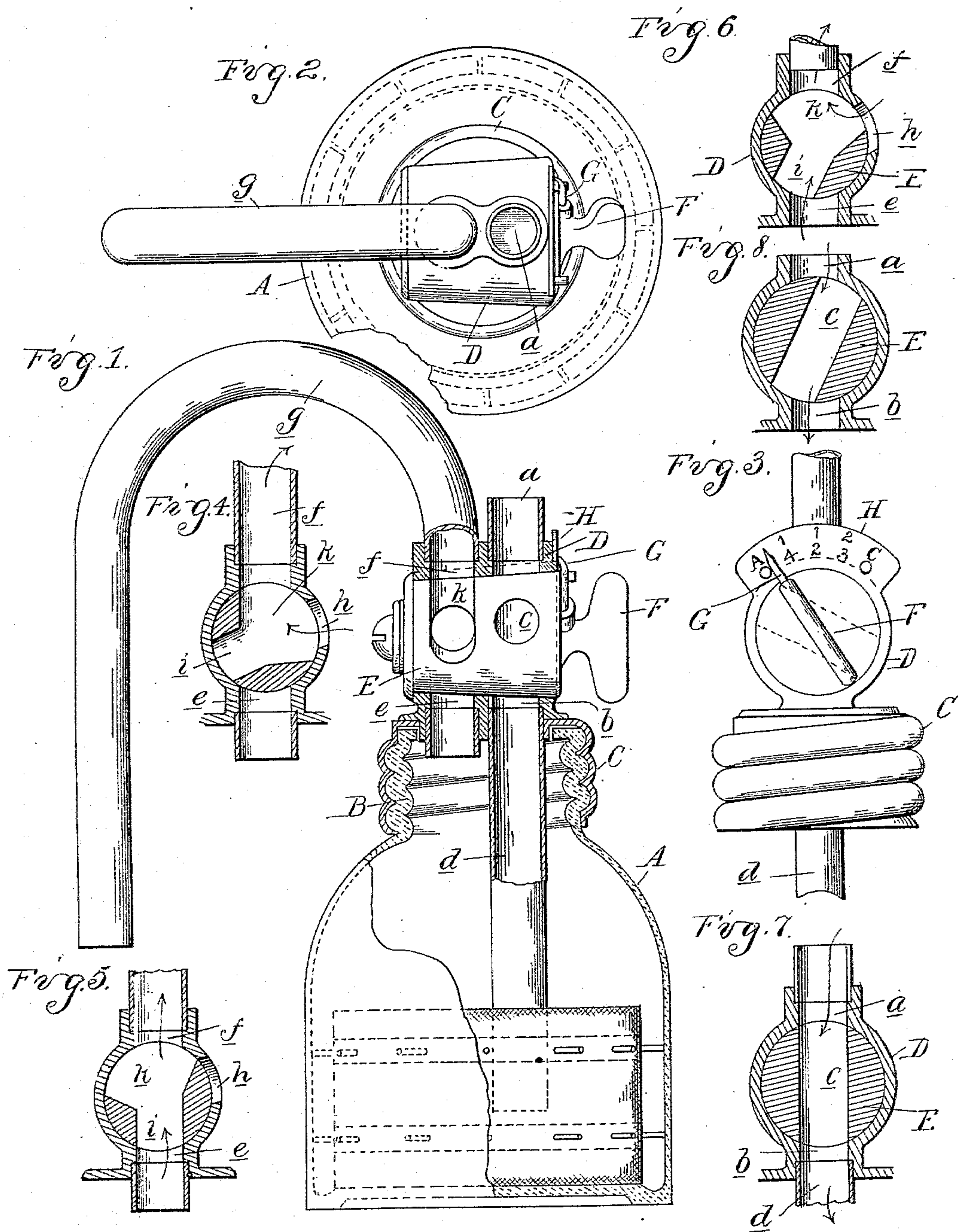
(No Model.)

2 Sheets—Sheet 1.

J. K. GAILEY.
INHALER.

No. 552,901.

Patented Jan. 14, 1896.



Witnesses
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P. M. Hulbert

Inventor
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By *M. S. Sprague* For Atty's.

(No Model.)

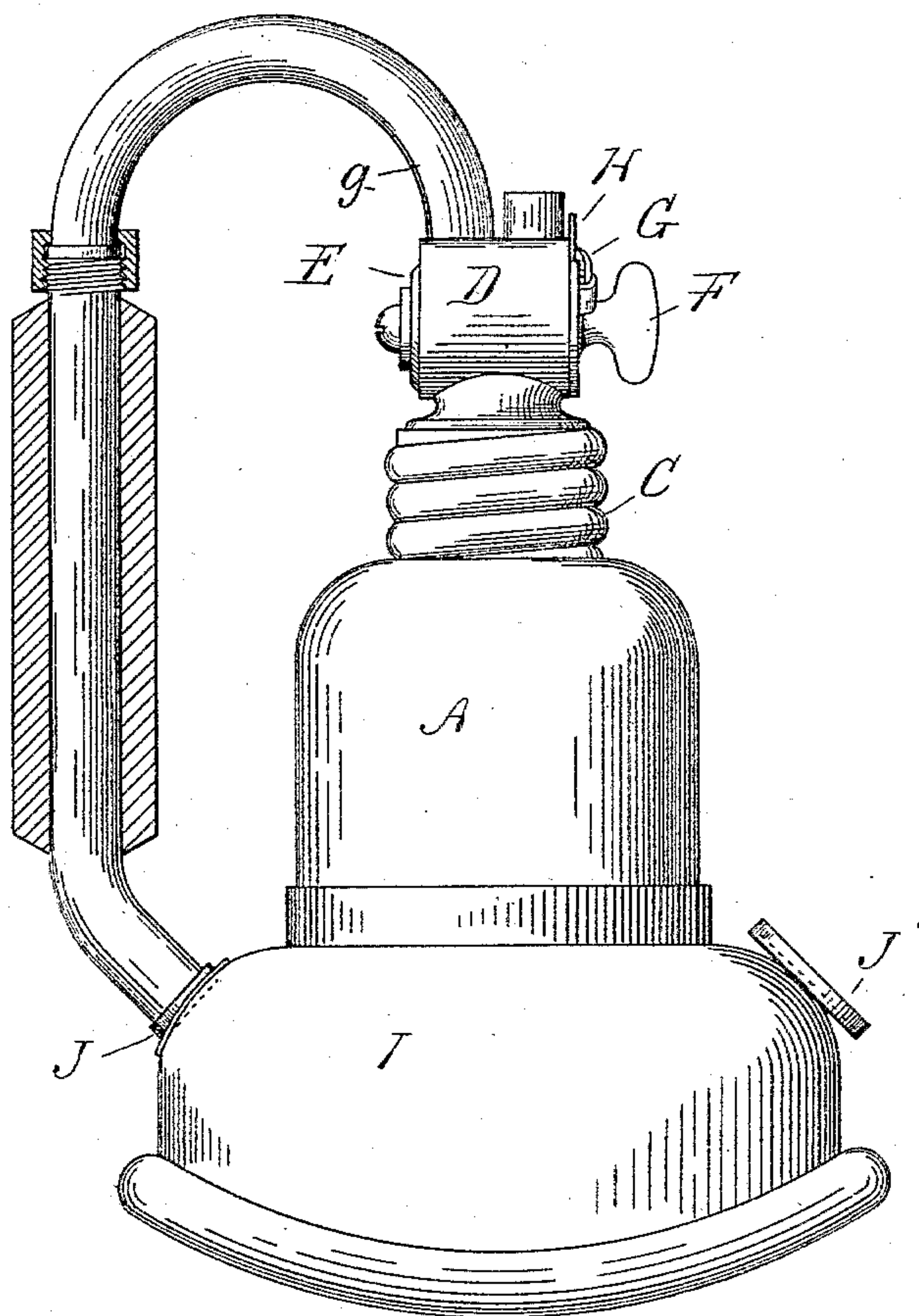
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Fig. 9.



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UNITED STATES PATENT OFFICE.

JOHN K. GAILEY, OF DETROIT, ASSIGNOR, BY MESNE ASSIGNMENTS, OF ONE-HALF TO CLEMENT A. DUNBAR, OF SOUTHFIELD, MICHIGAN.

INHALER.

SPECIFICATION forming part of Letters Patent No. 552,901, dated January 14, 1896.

Application filed January 29, 1895. Serial No. 536,598. (No model.)

To all whom it may concern:

Be it known that I, JOHN K. GAILEY, a citizen of the United States, residing at Detroit, in the county of Wayne and State of Michigan, have invented certain new and useful Improvements in Devices for Administering Anesthetics, of which the following is a specification, reference being had therein to the accompanying drawings.

10 The invention consists in the construction of a device for administering anesthetics, and particularly in its construction whereby the strength of the anesthetic, or the proportion of the anesthetic vapor and air can be varied
15 as desired.

The invention further consists in the construction of the respirator-hood and anesthetic vessel in a single structure, whereby its construction and use are simplified and its
20 manufacture cheapened, all as more fully hereinafter described.

In the drawings, Figure 1 is a sectional elevation of the anesthetic vessel and its connection. Fig. 2 is a top plan view thereof.
25 Fig. 3 is a front elevation of the cap for the vapor-chamber. Figs. 4, 5, and 6 are vertical sections through the controlling-valve, showing different positions. Figs. 7 and 8 are vertical sections through the air-port or
30 air-valve, showing the different positions. Fig. 9 is an elevation of the device as a whole, including the respirator-hood.

A is the anesthetic or vapor chamber, preferably a jar-shaped glass vessel, having the
35 short neck B, with which the cap C is adapted to detachably engage.

On the top of the cap is a valved body or casing D, in which is the plug-valve E, having a finger-piece F for turning it, and an index-
40 finger G which moves across the graduated index-plate H on the front of the casing, as plainly shown in Fig. 3.

The valve-casing is provided on opposite sides with the air-ports *a b* controlled by the
45 plug in which is the passage *c* controlling the amount of air into the tube *d* which connects with the port *b* and extends to near the bottom of the vapor-chamber. The valve-casing is also provided with the vapor-ports *e* and *f* on
50 opposite sides and with the intermediate air-

port *h*, and the plug in line with these ports is provided with the passage *i*, the top *k* of which is enlarged, as shown in Figs. 4, 5 and 6. The port *f* connects with the discharge-pipe *g* which leads to the respirator-hood I, 55 and this hood is provided with the check-valves *J J'*, so constructed that the inspiration of the patient will close the valve *J'* and open the valve *J*, and the expiration will close the valve *J* and open the valve *J'*, so 60 that the inhalation will be taken from the tube *g* and the expiration will pass directly out from the hood.

When the device is adjusted for use with the hood upon the face of the patient and 65 the valve in the position shown in Figs. 1 and 4, the air-inlet to the vapor-chamber is closed, while the air-port *h* is open and will admit air freely to the patient. As the valve is turned the air-inlet port *c* through the plug 70 is opened, as shown in Fig. 8, the air-inlet port *h* is proportionately closed and the vapor-port *e* is proportionately opened, as shown in Fig. 6, so that the inspiration of the patient will draw through the tube *g* a portion of air 75 and a portion of anesthetic vapor, the proportion of which will be indicated upon the dial. For instance, one-quarter anesthetic vapor being the first indication shown in Fig. 3, as the plug is turned farther in the same 80 direction the direct air-port *h* is proportionately closed and the air-port *c* proportionately opened until the valve is thrown to its extreme limit, (shown in Fig. 5,) when the patient will receive by inhalation the full 85 strength of the anesthetic vapor. The physician or surgeon thus is enabled to graduate to a nicety the strength of the anesthetic administered and can increase or decrease it at any time by simply changing the valve. 90

In Fig. 9 I have shown the respirator-hood formed with means for securing it to the base of the chamber A, and the substantially rigid discharge-tube *g* shaped to serve as a handle by means of which it may be carried. This 95 is especially advantageous, as the attendant who is administering the anesthetic can support the entire device in one hand, having the other hand free for regulating the valve or to perform other duties. 100

By making the hood detachable from the vessel it may be readily cleansed or repaired.

It will be observed that at all times the respiration of the patient will in no wise be impeded regardless of the strength of vapor which is being administered, for the portage for supplying vapor or air to the supply-tube remains substantially constant, regardless of the various adjustments of the valve.

While I have shown a specific construction of regulating-valve and a specific construction of combined vapor-chamber and hood, I do not desire to be limited to such constructions, as I believe I am the first to construct a device of this kind for applying anesthetics having a controlling-valve by means of which the proportions of air and anesthetic vapor may be varied at the will of the operator.

What I claim as my invention is—

1. A device for administering anesthetics, comprising an anesthetic vessel, a discharge pipe leading therefrom, a valved hood on the outer end of the discharge, an air inlet port into the discharge pipe, an air inlet port into the vessel and valves for synchronously opening the air inlet port into the vessel and the

vapor outlet therefrom and correspondingly closing the air port to the discharge pipe, substantially as described.

2. A device for administering anesthetics comprising a vessel, a valved hood secured directly to the vessel, a supply pipe having a rigid section leading from the vessel to the hood and forming a handle, and valves for controlling the supply of anesthetics to the hood, substantially as described.

3. In a device for administering anesthetics, the combination with a receptacle, of an air supply pipe leading into the same, a discharge pipe leading from the receptacle and having an external inlet port at its inner end, a valved hood on the outer end of the discharge, and means for closing the discharge from the vessel and the air supply and opening the external inlet port, substantially as described.

In testimony whereof I affix my signature in presence of two witnesses.

JOHN K. GAILEY.

Witnesses:

JAMES WHITTEMORE,

L. J. WHITTEMORE.